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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/625,328

07/23/2003

Sebastien Weitbruch

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10/17/2006

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PATENT OPERATIONS
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EXAMINER

CASCHERA, ANTONIO A

ART UNIT

PAPER NUMBER

2628

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/625,328

Applicant(s)

WEITBRUCH ET AL.

Examiner

Antonio A. Caschera

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 8-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in the pending application.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1-7 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In reference to claim 1, the language of the claim raises questions as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Specifically, the, “method for processing video data for display...” of claim 1, is the abstract idea, which could be implemented without the use of any type of machine and does not produce any tangible results. For example, the claim does not actually claim displaying the processed video data on a display device or storing the processed video data in a computer-readable medium. See MPEP 2106 IV (B)(1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (U.S. Patent 6,421,466 B1) in view of Frey (U.S. Patent 5,925,875).

In reference to claim 1, Lin discloses a method for processing video data (see column 1, lines 5-8 and column 6, lines 26-31) for display on a display device having a plurality of luminous elements (column 5, lines 61-64 disclose the display as having luminous elements) by applying a dithering function to at least part of said video data to refine the grey scale portrayal of video pictures of said video data (see column 8, lines 18-23). Note, the Office interprets that the dithering of Lin inherently “refines” grey scale values of video data since the “Y” or luminous component of the pixel data is kept throughout the pixel manipulation processing (see column 8, lines 12-14). Lin further discloses computing at least one motion vector from said video data (see column 7, lines 1-17). Although Lin does disclose calculating motion estimation vectors from the video data, Lin does not explicitly disclose changing at least one of the phase, amplitude, spatial resolution and temporal resolution of the dithering in accordance with the calculated motion vector. Frey discloses an apparatus and method using a dithering device to correct for differences in image detectors (see column 1, lines 13-16). Frey discloses the dithering device filtering an image performing scene-to-scene registration to measure the object space motion and to estimate a dither pattern from that motion (see column 10, lines 33-45 and Figure 12). Frey further discloses the scene-to-scene registration estimating the dither pattern by

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shifting a reference image signal relative to a previous image frame by a number of pixels (see column 10, lines 51-53). Note, the Office interprets such shifting of the reference image signal functionally equivalent to a change in spatial resolution of the dither pattern since the dither pattern of Frey is directly related to the correlation of the shifted image with previous image frame data. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the dither pattern modification based upon motion estimation techniques of Frey with the dithering and motion vector calculation techniques of Lin in order to adjust the dithering process on a scene-by-scene basis thereby creating a more precise dithering mechanism in video systems (see column 3, lines 51-60 of Frey).

In reference to claim 2, Lin and Frey disclose all of the claim limitations as applied to claim 1 above. Frey further discloses the scene-to-scene registration estimating the dither pattern by shifting a reference image signal relative to a previous image frame by a number of pixels (see column 10, lines 51-53). Note, the Office interprets such shifting of the reference image signal functionally equivalent to a change in spatial resolution of the dither pattern since the dither pattern of Frey is directly related to the correlation of the shifted image with previous image frame data. Further, the Office interprets the shifting of Frey to inherently provide shifting in two dimensions (x, y or 2D dimensions of screen space, see also, column 12, lines 43-48) and since Frey discloses comparing the current image to a previous image frame, the Office Frey to also disclose the dithering to incorporate a single temporal dimension.

In reference to claim 4, Lin and Frey disclose all of the claim limitations as applied to claim 1 above. Since Lin discloses that the “Y” or luminous component of the pixel data is kept

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throughout the pixel manipulation processing (see column 8, lines 12-14), the Office interprets Lin to disclose the dithering function based on single luminous elements.

In reference to claim 5, Lin and Frey disclose all of the claim limitations as applied to claim 1 above in addition, Lin explicitly discloses performing pixel-width reduction from 8 to 6 bits (see column 8, lines 15-18) which the Office interprets equivalent to a 2-bit dithering.

In reference to claim 6, Lin and Frey disclose all of the claim limitations as applied to claim 1 above. Lin discloses wherein said at least one motion vector is defined for each pixel or cell individually (see columns 6-7, lines 40-17 wherein the details of the motion vector computation for each pixel is disclosed).

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (U.S. Patent 6,421,466 B1), Frey (U.S. Patent 5,925,875) and further in view of Correa et al. (EP1136974 A1).

In reference to claim 3, Lin and Frey disclose all of the claim limitations as applied to claim 1 above. Neither Lin nor Frey explicitly disclose the dithering function including the application of a plurality of masks. Correa discloses a method for processing video data for display on a display device wherein dithering is applied and the dithering function includes the application of a plurality of masks (see page 9, paragraph 0038). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the dithering masks of Correa with the dither pattern modification and motion estimation techniques of Frey and dithering/motion vector calculation techniques of Lin in order to enhance the portrayal of grey scale values in video by adding an appropriate mask dither signal to the video signal (see page 2, paragraph 10 of Correa).

Response to Arguments

5. In view of the appeal brief filed on 7/24/2006, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth above.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

6. The cancellation of claims 8-16 is noted.

7. Applicant's arguments, see pages 4-12 of the Appeal Brief, filed 07/24/06, with respect to the rejection(s) of claim(s) 1-7 under 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Lin, Frey and Correa.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Antonio Caschera whose telephone number is (571) 272-7781.

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The examiner can normally be reached Monday-Thursday and alternate Fridays between 7:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung, can be reached at (571) 272-7794.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

571-273-8300 (Central Fax)

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (571) 272-2600.

aac
Aue
10/13/06

PATENT EXAMINER



KEE M. TUNG
SUPERVISORY PATENT EXAMINER